



Notification and Investigation of Major Incidents Process

Bus Operator Guidance

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Issue 1

EVERY JOURNEY MATTERS



What is the NIMI process?

The NIMI process is a systematic approach to identifying and sharing lessons learnt from incidents on the bus network

(see page 32 for a flow diagram of the process).

London's buses transport more people than any other public transport mode. Buses help to reduce traffic and therefore make streets safer and easier to cross.

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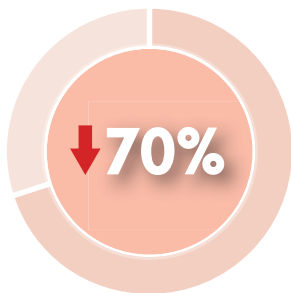
Introduction

The Mayor's aim is for no one to be killed in or by a London bus by 2030, with the following targets set:

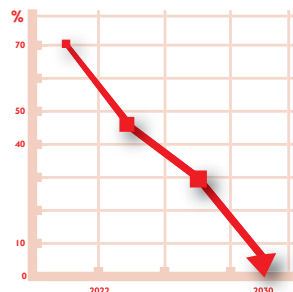
Understanding how and why an incident happened helps us reduce the number of people killed or injured by London buses, and is critical to our efforts to eliminate such incidents.

The Mayor, through TfL, the boroughs, police and enforcement authorities, will adopt Vision Zero for road danger in London.





2022 – reduce the number of people who are killed or seriously injured in, or by, London buses by 70 per cent against 2005-09 levels



2030 – reduce the number of people killed in, or by, London buses to zero.

Bus operators are required to carry out investigations of road collisions, focusing on root causes. For certain types of incidents we ask operators to provide us with the findings of their investigations.

The Notification & Investigation of Major Incidents (NIMI) process has been developed to make sure that incidents are reported and investigated to a high standard, and to include all relevant information that could prevent a similar incident happening again.

Examples of NIMI incidents include, but are not limited to:

Fatalities	All incidents resulting in a fatality.
Major road traffic collision or falls	Incidents that result in life changing injuries, multi-casualty collisions, tree collisions, bridge collisions, bus station collisions, tram/ rail collisions etc.
Safety critical failures	Bus fire, brake, steering failure, wheel loss etc.
Security crime and disorder	Arson, drug or alcohol failure etc.
Other serious incidents	Pedal confusion, incidents with a high level of media interest, incidents where prosecution is likely etc.

Full criteria for incidents that are managed as part of the NIMI process ("NIMI incidents") can be found in Page 29.



Who compiles the NIMI reports?

Bus operators are responsible for compiling the NIMI reports. TfL support them in the completion.

(see [Page 33](#) for a flow diagram of the process).





The stages of the NIMI process:

- 1. Notification and reporting**
- 2. Confirmation**
- 3. Investigation**
- 4. Communication of findings**
- 5. Review of findings**
- 6. Closure**

Stages of the NIMI Process

This section explains the six stages of the process. Page 32 has a flow chart of the process

1

Notification and reporting of NIMIs

The operator's immediate actions following an incident within the NIMI process are:

- To report any information to Network Management Control Centre NMCC, (formally known as CentreComm) relevant to minimising risk or disruption to the network
- To enter the incident onto the Incident Reporting and Information System (IRIS) within 24 hours of the incident happening
- To inform us of any residual risk not managed as part of the immediate incident management.

2

Confirmation

The TfL process for confirmation of a NIMI includes:

- Review the details of an incident to confirm it meets the NIMI criteria (see page 29)
- Providing a 'Request for Further Information' where necessary, to the operator to help us decide if an incident falls within the NIMI process. (A request for further information of an incident is not a notification of a NIMI)
- Notifying our senior managers when it has been confirmed that an incident falls within the NIMI process
- Sending an email notification to the operator advising that the incident will be managed under the NIMI process. (The notification includes a summary of the incident details and an explanation of why the incident falls within the NIMI process).



Information

Incidents which do not meet the NIMI criteria, but may be of interest to us for other reasons are known as 'significant Incidents' and include such issues as where there is a particular trend or pattern identified that is of concern.

We will not issue a NIMI notification for these incidents, but we may make a request for additional information about them outside of the NIMI process.

3

Investigation

The operator starts an investigation into the incident by:

- Fact finding
- Identifying the immediate causes
- Identifying the root causes
- Completing the NIMI report
- Corrective action and action planning



3

Minimum competencies for investigators

To ensure investigations are effective and of high quality, investigators responsible for the NIMI process should have the relevant knowledge, skills and experience.

The knowledge, skills and experience should include, but not be limited to:

- Knowledge of different accident causations models
- Knowledge and experience of root cause analysis
- Knowledge and experience of witness interview techniques
- An understanding of the key principles of human factors as they relate to incident investigation (such as types of human failures)
- An understanding of event sequencing, such as Events and Causal Factors (ECF) charts, Ishikawa diagram (fishbone diagram), fault tree analysis, job safety analysis and so on.

4

Communication of findings

4.1. Operators 48-hour update

After establishing the initial details of an incident, operators provide us with the following information within 48 hours:

- Confirmation of injuries resulting from the incident.
This is particularly important as severity of injury is one of the criteria used to determine if something falls within the NIMI process (see page 19)
- Initial indication of what happened and any action taken (subject to the investigation findings)

Information

If subsequent information indicates an incident no longer meets the NIMI criteria, the incident may be downgraded.



4.2. Operators 7-day update

Operators provide us with the following information within 7 days of the incident:

- Injury update (where information is available)
- Initial immediate causes identified and any additional information not shared in the 48-hour update
- Next steps and focus of the ongoing investigation

4.3. Operator completes investigation within 30 days

Operators complete their investigation and share their findings with us within 30 days.

The operator will capture their findings of an investigation in the NIMI report. The NIMI report includes the details of the incident, main contributory factors and key findings of the operator's investigation, including remedial actions.

In some cases an investigation may not be concluded within 30 days. This could be due to the complexity of the investigation or dependency on external organisations such as the police or coroner.

Information

If an investigation has not been completed within 30 days of the incident, the operator will:

- Provide us with an interim NIMI report, with the findings of the investigation to date
- Advise us what the focus of the ongoing investigation is, and/ or the nature of information they are trying to obtain

We will agree a time extension with the operator to provide a final report.



5

Review of findings

The report will be reviewed in turn by the following from their level of expertise:

- TfL HSE Manager
- TfL NIMI Peer Review Group
- Management Review Group

The NIMI peer review is a group of HSE managers who collectively consider the findings from every investigation.

The following table shows what each group will review and the additional actions they will take.



Role involved	Actions carried out by each role involved	Additional actions for specific roles
HSE manager, TfL NIMI Peer Review Group and Management Review Group	Review and identify: • Causal factors • Remedial actions and lessons learned • Further actions relating to themes or issues raised by the incident.	TfL HSE managers will: • Liaise with operators, undertaking a review of information provided in the NIMI report • Add any information relevant to the report, including information about TfL processes, systems, assets and activities that may not be available to the operator. • Make recommendations to the NIMI review group to submit a NIMI report for closure • Request additional information or clarification from the operator or TfL internal stakeholder TfL NIMI Peer Review Group • Consider whether the circumstances of the NIMI raise any further actions/discussions outside the scope of the incident findings Management Review Group • Consider if any further actions and lessons learned outside the scope of the incident report have been identified.

Role involved	Actions carried out by each role involved	Additional actions for specific roles
HSE manager and TfL NIMI Peer Review Group	Review and identify: • Causal factors • Remedial actions and lessons learned • Further actions relating to themes or issues raised by the incident.	HSE manager • Make recommendations to the NIMI review group to submit a NIMI report for closure TfL NIMI Peer Review Group • Accept recommendations to submit a NIMI report for closure • Reject recommendations to submit a NIMI report for closure, request additional information or clarification
Management Review Group	Review, identify and record: • Further causal factors • Further remedial actions and lessons learned • Reject recommendations to close NIMI reports with a request for additional information or clarification	• Approve/reject recommended TfL actions • Refer NIMI reports related to fatalities and other high potential impact incidents, to the Buses Safety Governance Meeting • Close NIMI reports



Role involved	Actions carried out by each role involved	Additional actions for specific roles
Buses Safety Governance Meeting (SGM)	Consider if: - Immediate and root causes have been fully identified - Actions identified by us and the operator are suitable and sufficient - Proposed further actions and lessons learned are appropriate.	- Accept, reject, identify and recommended actions for TfL - Close NIMI reports - Reject recommendations to close NIMI reports with a request for additional information or clarity.

6

Closure

NIMI reports will be closed when the Management Review Group or the Buses Safety Governance Meeting determine that no additional learning outcomes can be identified.

Information

In some cases, a NIMI may be closed, pending the outcome of external investigations, such as a coroner's hearing or police investigation.

In these cases, NIMI reports will be updated and reviewed again to ensure any additional learning outcomes are identified.

Declassification

A NIMI can be downgraded from the initial major incident identification as a result of the incident investigation. In such circumstances the NIMI is declassified.

What do we do with the information operators give us?

TfL does not require personal data (as described under General Data Protection Regulation (GDPR) for the Notification and Investigation of Major Incidents process.

We use the information gathered as part of the NIMI process for:

- **Analysis**
- **Reporting and monitoring**
- **Decision making**
- **Lessons learnt**



Analysis

We will analyse the information gathered through the NIMI process, to try to identify statistical trends and patterns and any other insights that will provide opportunities for health and safety improvements.

Information will be used to support internal safety initiatives such as the Bus Safety Programme.

We aim to share learning outcomes and insight gained through the NIMI process with operators, other key stakeholders and the wider industry, where appropriate.

Reporting and monitoring

We perform quantitative and qualitative monitoring of incidents that fall within the NIMI process and publish a monthly “Lessons Learned” report to operators outlining incidents and any associated learning opportunities.

We aim to:

- Track actions arising from the NIMI process
- Track our performance in closing identified improvement actions
- Monitor NIMI events as part of our Safety Performance Index process
- Monitor operator engagement with the NIMI process as part of the operator assurance programme
- Publish investigation findings into fatal incidents on to our external website

Decision making

The intelligence and insights gained through the NIMI process will form part of the information available to assist internal stakeholders in various decision-making processes. This information will also feed into the wider stream of information which helps shape policy and strategy within our organisation.

Lessons learnt

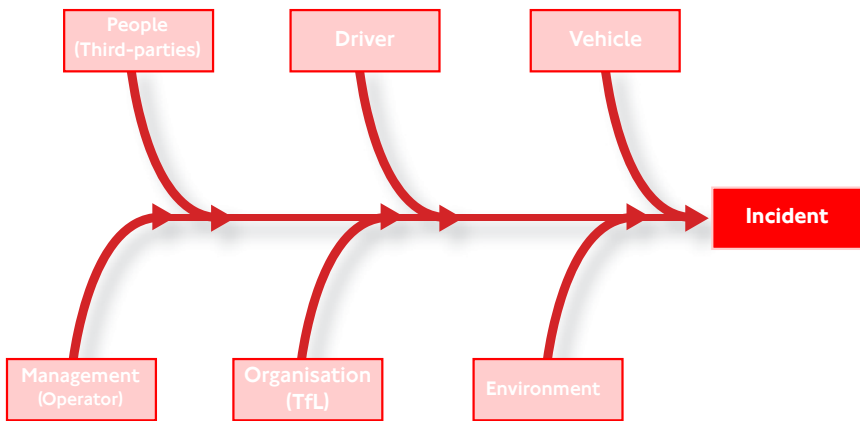
Lessons learnt from the NIMI process also form a part of an exercise at quarterly meetings with the operators.

Completing the investigation

Writing the NIMI report

Our HSE manager will examine NIMI reports with accident prevention in mind, not to apportion blame. The objective is to establish not only how the incident happened, but also what allowed it to happen.

The NIMI form is designed to help us identify the immediate and root causes of an incident by eliciting information about key factors:



These areas represent the typical main causal factors (based on our analysis of incidents) but should not be considered as an exhaustive list. The following table outlines each section of the NIMI, with an overview of the role each section plays in the overall process.





The NIMI Report

NIMI reports should be written with accident prevention in mind, not to apportion blame. The objective is to establish not only how the incident happened, but also what allowed it to happen.

The form is designed to help us identify the immediate and root causes of an incident by eliciting information about key factors.

Section	Expected output	Explanatory note
1: About the Incident	Key information about the incident 48Hr	Provides us with key information at the early stages of an investigation. This helps us assess if there are any risk-reduction actions we need to take in the short term, outside of the immediate incident management process. E.g. we may need to advise internal stakeholders, operators and other external stakeholders about a specific risk.
2: The Investigator	Contact details for the person investigating the incident 48Hr	If you require TfL to contact more than one person, please inform us.
3: Updates (48-hour and 7 day)	Confirmation of whether any other agencies or organisations are undertaking investigations into the incident. 48Hr	This information helps us determine if we need to liaise with any other organisations as part of our consideration of an incident.
4: Other Investigations likely or in progress	Information about what tools have been used, or will be used, as part of the investigation. 7Day	Tells us what information will be available.

Section	Expected output	Explanatory note
5: Time-line of Events	List of relevant events, prior, during and after an incident (as is relevant), in chronological order. 7Day	Using a time-line to identify the sequence of events and conditions that led up to an incident helps us identify the immediate causes and provides insight into potential root causes.
6: Time-line of events	Detailed anonymised information about the following key factors: • People (third parties) • Bus Driver • Vehicle (including instruments) Other factors (if known at this stage) • Environment • Organisation (process, procedures, standards, work instructions etc.) • Other factors 7Day	This information helps us understand the detailed circumstances of an incident, and identify immediate and potential root causes. These key factors are also used to create profiles that help us identify emerging trends, patterns and themes over a longer period of time. Sources of information needed to complete this section will include (but is not limited to): • CCTV • Record of site visits • Training records • Maintenance records • Driver/ vehicle incident history



Section	Expected output	Explanatory note
7: Investigation conclusion	Summary of conclusions drawn by the incident investigator(s), including root causes, recommended actions for the operator, TfL and third party organisations where applicable, e.g. vehicle manufacturers, local authorities etc. Summary of remedial actions, and further actions taken or recommended.	All the previous sections contribute to the information recorded in this section. Determining the root causes of an incident is critical to identifying opportunities for improvement.
8: Closure	Summary of details finalising report.	These comments may be a joint effort between TfL and the operator, once we have agreed on the lessons learnt from the incident.

Section	Expected output	Explanatory note
9: Maps and Images	CCTV stills (bus, bus station, local authority etc.), photos taken on-scene or site visits, map of location. Indication of exact location on any map used such as where on a particular road the incident took place.	CCTV evidence and other images are a vital part of the process. Wherever possible, operators are expected to use images for fact-finding. Bus stations are generally covered by CCTV managed by us. This can be made available on request. TfL may also request bus operators' CCTV as part of its internal investigation or aid the provision of accurate information to interested parties.
10: TfL Internal Use Only	Main contributory factor and bus vs. Vulnerable Road User (VRU) conflict profile. Follow up actions.	



Section	Expected output	Explanatory note
Additional Information from TfL	Information managed by us, which is not readily available to operators, e.g.: • Low bridge warning activations • Traffic signal phasing • Pan-network incident statistics for a specific location.	To support operators' investigations, we will supply information on low bridge alarm activation in the event of a bridge strike. This information will be provided on request. We can also provide information related to traffic signals, and specific locations on the Transport for London Road Network (TLRN). The investigations of major events should consider as much information as possible including accident history for the location of the incident. This information can be obtained from the IRIS system on request. The investigator should send their request to irisadmin@tfl.gov.uk stating the period they require the data for and the road name involved. The information released will not identify individual operators.



Site Visits

Where there has been an incident that results in a fatal injury involving one of our buses, the location will be visited by senior managers from Buses and the relevant operator. An HSE site visit may also be undertaken by TfL as part of a Go, Look, See, which involves other internal or external stakeholders visiting locations where serious incidents have happened.

The purpose of these visits is to gain an understanding of where the incident took place, and record any observations that are relevant to the incident investigation.

Other internal and external stakeholders may accompany senior managers on site visits, representing our HSE, design and engineering teams, local authorities, Metropolitan Police etc.



Other investigating authorities

Police Investigation

If the police are conducting an investigation, the operator's investigation may also consider any relevant information from the police involvement.

It is important to note that all incidents dealt with by the police are given a Computer Aided Dispatch (CAD) reference number, which operators are encouraged to obtain and record on IRIS and in the NIMI report.

For obvious reasons, these incidents will need to be dealt with in line with police protocols, so information may not be available in a timely manner to bus operators who are investigating the incident from a root cause perspective.

However, the Operational Police Liaison team within TfL may be able to provide limited information on police involvement in the incident. In this situation, the operator should send an email requesting information to eospoliceliasion@tfl.gov.uk stating the CAD number.

Coroner's Hearings

If a fatal incident is the subject of a Coroner's hearing, the operator will be required to include the findings and verdict of the coroner and any recommendation made, in the investigation conclusion section of the NIMI report.

A list of Coroner's courts and further information is available on the Coroner's Society's website <http://www.coronersociety.org.uk/>



RIDDOR reportable Incidents

Most incidents involving buses are road traffic related so come under the jurisdictions of the Metropolitan Police Service. If an injury is not the result of vehicle movement, for example, while the bus was stationary or not on the public highway, then a RIDDOR report may be required if the injuries or incident fall within the criteria defined under the regulations. In this event, section 8.4 of the NIMI form should be completed accordingly.

RIDDOR 2013 has identified certain events as reportable (full details available at <http://www.hse.gov.uk/RIDDOR/reportable-incidents.htm>)

Freedom of Information (FOI) Act

TfL is a public body, so is subject to the FOI Act 2000. The Act permits TfL not to disclose information on incidents that are under investigation.

However, information on concluded investigations may be discoverable under the Act. TfL understands the potential implications for organisations which are not covered by the Act, but previous experience has shown that the Act has not interfered or disrupted normal public duties or adversely impacted on bus operations.

TfL Commissioned Investigations

There are times where it would be appropriate for us to commission an independent investigation of a major incident with a view to complementing operators' internal investigations.

In most cases, these will involve the use of subject matter or technical experts to examine the incident and establish the causal factors and make recommendations where appropriate.

The details of such investigations will be shared with the operator involved where it is appropriate to do so. It would be advisable that the findings of these investigations are considered when concluding any internal investigation by the bus operator involved.

Where TfL is implicated

In some cases, TfL assets or employees may be implicated in a NIMI event. In these situations the incidents will be formally investigated internally in accordance with specific policies on incident investigations.

The conclusion of this additional investigation by TfL will form part of overall information gathering process. Lessons learned from these TfL investigations will also be shared in line with the framework for sharing information.

Definitions

Incident: We define an incident as an undesired event that resulted in, or under slightly different circumstances, could have resulted in, harm to people, damage to property, damage to the environment or loss of service. Reportable incidents to TfL are those set out in the London Buses Framework Agreement, *Vol 2, Part C1*.

Notification and Investigation of Major Incidents (NIMI): a systematic approach to identifying and sharing lessons learnt from incidents on the bus network (see Appendix 1 for a flow diagram of the process, and Appendix 2 for the incident types that fall within the NIMI process).

Root cause: The most basic cause of an incident that can reasonably be identified, and that managers' have the control to fix.

Immediate cause: Obvious reason of an adverse event.





NIMI criteria Aide Memoire

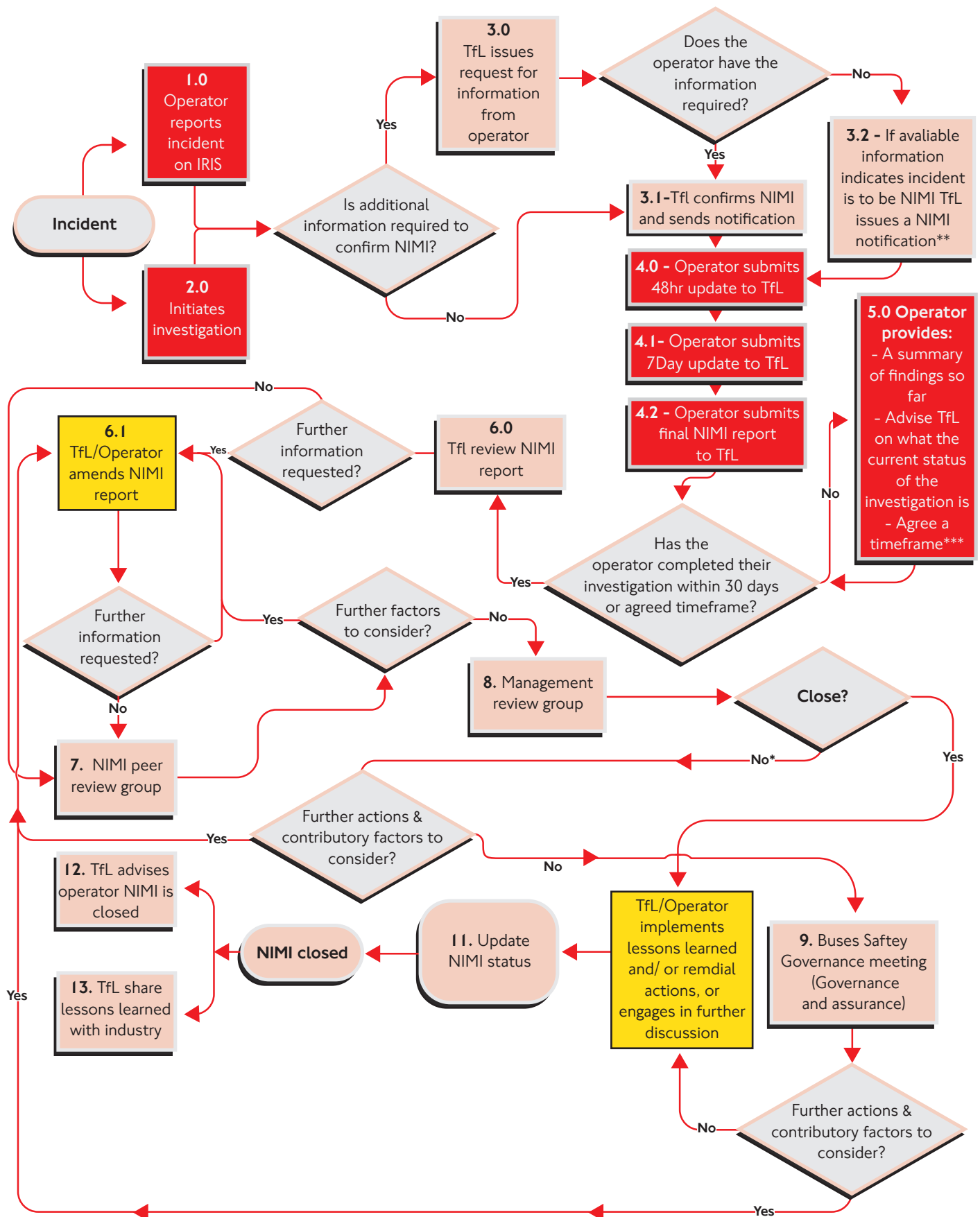
The aide memoire will assist in deciding whether an incident is subject to the the NIMI process

Section	Incident	Example	NIMI or not?
Major road traffic collision	VRU	Pedestrian hit by bus. Early reports indicate the pedestrian has been taken to A&E with possible fracture	Possible , wait 24 hours We will wait until we know that the individual was held overnight in hospital
Major road traffic collision	Multi-casualty collision	A road traffic collision where several 'walking wounded' are seen and several ambulances attend, but no clear indication of who is taken to A&E	Possible , wait 24 hours As above, we wait to hear confirmed numbers and whether they were held in hospital
	Tree collision	The bus is on diversion or driving on the wrong side of the road through a set of road-works.	Yes , if the tree is overhanging the road/highway.
	Bus station collision	Bus hits bollard on exit, takes off mirror.	No , if there is no significant damage to the station infrastructure we do not want to deal with these as NIMI.



Section	Incident	Example	NIMI or not?
Safety critical failures	Bus fire	The engineer/driver refers to this as a simple “thermal incident” only and no substantial damage is noted.	Yes , if the bus is taken out of service and/or the bus has needed a call-out to the scene to be repaired or recovered.
Incidents	High cost incidents	A fuel spill occurs in the garage overnight and needs an external company to come in and clean up.	Yes , this has a potential for high cost to the operator and should be reported as an Environmental incident.
		A noise complaint is received from residents and the council or Environment Agency are called in.	Yes , again this has the potential for high cost or punitive action being taken against the operator.

TfL NIMI Process



■ TfL
■ Bus Operator
■ Bus Operator/TfL

Notes:
 * Fatal and other selected incidents can only be closed at the Buses Safety Governance Meeting

** If Incident found not to be a NIMI incident is declassified

*** Some investigations may not conclude within 30 days due to factors outside the control of TfL or Operator



NIMI Criteria

Event	Incident	Guidance
Fatality	All fatalities including suspected medical related cases.	These include fatalities arising from any incident connected with the bus company. This is not limited to bus related incidents. Deaths from suspected natural causes or suicide are also included. There is no time limit between the initial incident and the subsequent fatality provided it is conceivable that the death was as a direct result of the injury suffered from the incident.

Event	Incident	Guidance
Major Road Traffic Collisions	Vulnerable Road User (VRU), staff and customer Injury – All collisions leading to life changing injuries or injuries that require being held in hospital overnight. Applies to: • VRUs (pedestrians, cyclists, motorcyclists) • Passengers • Transport workers	Any incident that causes a life changing injury such as loss of sight, amputation or brain injuries to any of the groups listed. This includes incidents that require the injured party to be held overnight for medical treatment (not as precaution).
Major Road Traffic Collisions	Multi casualty collision – All collisions where three or more people were injured and taken from scene of incident to hospital for treatment.	A single incident where three or more people were taken from the scene of the incident to hospital for treatment. This includes off-bus incidents, e.g. incidents within a depot.



Event	Incident	Guidance
	Multi vehicle collision - All collisions where three or more vehicles were involved and lead to an injury.	A major road traffic collision involving three or more vehicles (excluding cycles) where there was an injury.
	Tree collision - A collision involving a tree with a branch overhanging the roadway.	Bus involved in a collision with a tree which is overhanging the roadway. This also includes trees which are signposted.
	Bridge collision – A collision involving a bridge or other sign-posted overhead structures.	Any bus collisions with a low bridge or other limited headroom obstructions whether or not damage was caused.
	Other serious collision - A road traffic collision involving a building, tree, street furniture, or our bus infrastructure.	Major road traffic collision leading to significant damage to the bus or the object struck, and potential to cause significant injuries or service disruption, particularly where a bus leaves the carriageway. This includes suspected pedal confusion.
	Bus station collision - A collision involving two or more buses within a bus station/stand environment	A noteworthy collision involving two buses within the bus station or stand environment.

Event	Incident	Guidance
Major Road Traffic Collisions	Unattended Bus Collision – A collision arising from a run-away bus situation.	A collision as result of an unattended bus rolling away and striking an object or person.
	Medical Collision - A collision due to the bus driver being medically incapacitated.	A road traffic collision directly attributed to the bus driver being medically incapacitated.
	Tram/Rail Infrastructure Collision - A collision involving a tram or railway infrastructure.	Any bus collisions with a tram or railway infrastructure whether or not damage was caused.
Safety Critical Failures	Bus Fire – a fire due to mechanical or electrical failure.	All electrical/mechanical fire incidents involving buses where flames were seen or fire suppression system prevented the fire but damage was caused to the bus.
	Brake Failure - a brake failure whether or not an accident resulted.	Where the bus in use suffered brake failure and as a result had to be taken out of service.
	Steering Failure – a steering failure incident whether or not an accident resulted.	Where the bus in use suffered steering loss and as a result had to be taken out of service.
	Wheel loss – a wheel detachment.	Where the bus in use suffered a wheel loss and as a result had to be taken out of service.



Event	Incident	Guidance
Security, Crime and Disorder	Fire – an accidental fire to a bus or property involved in bus operation	Accidental fires on buses or other properties causing service disruption.
	Arson – an arson on a bus or to a property involved in bus operation	An act of arson resulting in major damage to bus or property causing service disruption.
	Drug/Alcohol Failure - where the bus driver was arrested for failing a drug/ alcohol test	Where a bus driver was arrested for failing a drug or alcohol test. This is not limited to for cause.
Safety Critical Failures	Wheelchair User Injury – incidents leading to serious injury to a wheelchair user	Any incident which caused a wheelchair user to suffer serious injuries and was taken to hospital for medical treatment.
	Pushchair User Injury – incidents leading to serious injury to a child in a pushchair	Any incident which caused a child in a pushchair/buggy to suffer serious injuries and was taken to hospital for medical treatment.
	Open Platform Injuries – a fall from an open platform of a New Routemaster leading to a serious injury (New Routemaster in two crew operation)	Where a passenger falls while hopping on or off a moving NRM and suffering serious injuries which require hospitalisation.
	Technology Related Incidents – any noteworthy incident involving new technologies (not limited to buses).	Noteworthy safety critical incident involving new technology. This is not limited to buses includes technology being trialled.
	High Cost Incidents - any incident not listed above with significant cost implications to us or the operator.	Any noteworthy safety critical incident involving a bus not listed above but has the potential to result in a significant cost to us or the operator.

Event	Incident	Guidance
Safety Critical Failures	High Impact Incidents - any serious incident not listed above with significant operational impact on bus operations or on third parties.	Any noteworthy safety critical incident involving a bus not listed above which had a significant impact on bus operations or the activities of a third party.
	Prosecution Likely -any incident investigated by the HSE or where prosecution is likely by an enforcement authority.	Any incident investigated by the Health and Safety Executive (HSE) or where prosecution is likely by an enforcement authority.
	High Media Interest - any incident not listed above where there is significant media interest.	Any noteworthy safety critical incident involving a bus not listed above which attracted significant media interest.
	High Learning Opportunity - any other incident where there are substantial learning opportunities for industry.	Any other safety critical incident where there are substantial learning opportunities for the bus industry.



